

Simultaneous Inflight Spectral and Radiometric Calibration Validation  
of the Airborne Visible/Infrared imaging Spectrometer (AVIRIS)  
and the Hyperspectral Digital Image Collection Experiment (HYDICE)  
over Lunar Lake, Nevada.

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A experiment to validate the spectral and radiometric calibration of both the Airborne Visible/Infrared Imaging Spectrometer (AVIRIS) and the Hyperspectral Digital Image Collection Experiment (HYDICE) is described. Both sensors simultaneously collected imaging spectrometer data over Lunar Lake, Nevada during the last two weeks of June 1995. A field team measured the spectral reflectance of the lake bed and atmospheric optical depths during the overflights. Radiosonde balloons measured atmospheric temperature and humidity profiles. The field data are input to the MODTRAN radiative transfer code to predict the spectral radiance at both the AVIRIS and HYDICE sensors. The results from this prediction are used to validate the laboratory based calibration of the AVIRIS sensor. Similar techniques are employed to validate the calibration of the HYDICE sensor. The spectral calibration of both sensors is validated using the fit to the atmospheric features contained within the MODTRAN spectra. A comparison of the calibration across the full image area covered by both sensors is presented.

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